

Title (en)

Anti-sense regulation of gene expression in plant cells.

Title (de)

Anti-sense-Regulierung von Genexpression in Pflanzenzellen.

Title (fr)

Réglage anti-sens d'expression de gènes dans les cellules végétales.

Publication

EP 0240208 B1 19941117 (EN)

Application

EP 87302367 A 19870319

Priority

- US 84567686 A 19860328
- US 92057486 A 19861017

Abstract (en)

[origin: EP0240208A2] Regulation of expression of genes encoded for in plant cell genomes is achieved by integration of a gene under the transcriptional control of a promoter which is functional in the host and in which the transcribed strand of DNA is complementary to the strand of DNA that is transcribed from the endogenous gene(s) one wishes to regulate. The integrated gene, referred to as anti-sense, provides an RNA sequence capable of binding to naturally existing RNAs, exemplified by polygalacturonase, and inhibiting their expression, where the anti-sense sequence may bind to the coding, non-coding, or both, portions of the RNA. The anti-sense construction may be introduced into the plant cells in a variety of ways and be integrated into the plant genome for inducible or constitutive transcription of the anti-sense sequence. A wide variety of plant cell properties may be modified by employing this technique.

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IPC 8 full level

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Citation (examination)

- NATURE, vol. 315, 13th June 1985, pages 601-603; J. COLEMAN et al.: "A novel immune system against bacteriophage infection using complementary RNA (micRNA)", p. 603
- PRESSEY et al.: "Pectic enzymes in 'Long Keeper' tomatoes", &HORTSCIENCE 1982, 17(3, Sect. 1), 398-400
- Grierson et al. Nucleic Acids Res. 14(21): 8595-8603 (1986)
- DellaPenna et al, Proc. Natl. Acad. Sci. 83: 6420-6424 (1986)
- Giovannoni et al., The Plant Cell 1: 53-63 (1989)
- Grierson et al. Phil. Trans. R. Soc. B 314: 399-410 (1986)

Cited by

US6911541B2; US6586661B1; US6907887B2; US5316930A; US5728926A; US5750862A; US6087175A; US5516694A; US5840550A; EP0334383A3; EP0335451A3; AU738272B2; US6010904A; US5668295A; US5744364A; EP0429538A4; AU709798B2; US6147279A; US6015794A; FR2658988A1; EP0353908A3; US5356799A; EP0521621A3; US5365016A; EP0862635A4; US5554743A; US5585545A; US5365015A; US5530190A; EP0532060A1; US6162964A; EP0341885A3; EP0271988A3; AU628818B2; US5527674A; US5451514A; AU669106B2; US6066780A; US6013859A; AU652362B2; EP0329308A3; EP2554674A1; EP0779363A2; WO2016110780A2; WO2011147968A1; EP0562836A1; EP0486214A3; US5260205A; US5369023A; US5684241A; US5728558A; US5741684A; TR27504A; US5641673A; US5849548A; US5863774A; US5866384A; US5882907A; US6071730A; US5168064A; US5328999A; EP0528897A4; EP0316441A4; WO9403607A1; WO9842848A1; WO8909262A3; WO9213089A1; WO9837213A1; US9441239B2; WO2018037123A1; US6348641B1; US7148400B1; WO2017039452A1; EP2100962A1; WO2006069422A1; EP2267138A2; EP2267139A2; EP3214177A2; US7576262B2; US6198023B1; US6737560B1; EP2342970A2; WO2011136651A1; US8598332B1; WO9704112A3; WO9213090A1; WO9101375A1; WO9008828A3; US6448474B1; US6727406B2; US9963698B2; WO9953050A1; WO9209685A1; WO9105865A1; WO9735960A1; WO9113159A3; WO9525801A3; WO9307266A1; WO9305159A1; WO9116440A1; US6191343B1; US6198026B1; US6255564B1; WO2010142465A1; US9532520B2; US6423885B1; US7138565B2; US6184439B1; EP2290084A2; US9399777B2; US9708621B2; US10190127B2; EP3533878A1

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